

NOTES ON SOME CORNISH CIRCLES.

The Merry Maidens, Lat. 50° 4' N.

NE of the best preserved circles that I know of is near Penzance. It is called the Merry Maidens¹ (Dawns-Maen), and is thus described by Lukis² (p. 1):—

"This very perfect Circle, which is 75 feet 8 inches in diameter, stands in a cultivated field which slopes gently to the south.

"It consists of 19 granite stones placed at tolerably regular distances from each other, but there is a gap on the east side, where another stone was most probably once erected.

"Many of the stones are rectangular in plan at the ground level, vary from 3 feet 3 inches to 4 feet in height, and are separated by a space of from 10 to 12 feet. There is a somewhat shorter interval between four of the stones on the south side.

"In the vicinity of this monument are two monoliths called the Pipers; another called Goon-Rith; a holed stone (not long ago there were two others); and several [5] Cairns."

including the stones before mentioned and several barrows, some of which have been ploughed up.

At varying distances from the circle and in widely different azimuths are other standing stones, ancient crosses and holed stones, while some of the barrows can still be traced.

The descriptions of the locality given by Borlase and Lukis, however, do not exhaust the points of interest. Edmonds¹ writes as follows:—

"A cave still perfect . . . is on an eminence in the tenement of Boleit (Boleigh) in St. Buryan, and about a furlong south-west of the village of Trewoofoe (Trove). It is called the 'Fowgow,' and consists of a trench 6 feet deep and 36 long, faced on each side with unhewn and uncemented stones, across which, to serve as a roof, long stone posts or slabs are laid covered with thick turf planted with furze. The breadth of the cave is about 5 feet. On its north-west side, near the south-west end, a narrow passage leads into a branch cave of considerable extent, constructed in the same manner. At the south-west end is an entrance by a descending path; but this, as well as the cave itself, is so well concealed by the furze that the whole looks like an ordinary furze break without



FIG. 1.—The Merry Maidens (looking East).

Photo. by Lady Lockyer.

Lukis thus describes "the Pipers":—

"Two rude stone pillars of granite stand erect, 317 feet apart, and about 400 yards to the north-east of the Circle of Dawns-Maen. No. 1 is 15 feet high, 4 feet 6 inches in breadth, and has an average thickness of 22 inches, and is 2 feet 9 inches out of the perpendicular. The stone is of a laminated nature, and a thin fragment has flaked off from the upper part. No. 2 is 13 feet 6 inches high, and is much split perpendicularly. At the ground level its plan in section is nearly a square of about 3 feet."

Goon-Rith is next described:—"No 3 is naturally of a rectangular form in plan, and is 10 feet 6 inches in height. The land on which it stands is called Goon-Rith, or Red Downs. The upper part of the stone is of irregular shape."

Borlase, in his "History of Cornwall" (1769), only mentions the circle, but W. C. Borlase in his "Nænia Cornubiæ" (1872) gives a very rough plan

¹ I may here remark that "9 maidens" is very common as a name for a circle in Cornwall. It is a short title for 19 maidens. Lukis implies that Dawns-Maen once consisted of 20 stones. If all the circles followed suit it would be interesting to note if the present number of 19 is always associated with a gap on the eastern sides. The "pipers" are, of course, the musicians who keep the maidens merry, as does the "blind fiddler" at Boscowen-un Circle.

² "Prehistoric Stone Monuments, Cornwall."

any way into it. The direction of the line of this cave is about north-east and south-west, which line, if continued towards the south-west, would pass close to the two ancient pillars called the Pipers, and the Druidical temple of Dawns Myin, all within half of a mile."

This fougou is situated on a hill on the other side of the Lamorna Valley, near the village of Castallack, and the site of the Roundago shown in the 1-inch ordnance map.

Borlase² says that many similar caves were to be seen "in these parts" in his time, and others had been destroyed by converting the stones to other uses.

There is evidence that the circle conditions at the Merry Maidens were once similar to those at Stenness, Stanton Drew, the Hurlers, Tregaseal, and Botallack, that is that there was more than one, the numbers running from 2 to 7. Mr. Horton Bolitho, without whose aid in local investigations this paper in all probability would never have been written, in one of his visits came across "the oldest inhabitant," who remembered a second circle. He said, "It was covered with furze and never shown to antiquarians"; ultimately the field in which it stood was

¹ "The Land's End District," p. 46.

² "Antiquities," p. 274.

ploughed up and the stones removed. It is to prevent a similar fate happening to the "Merry Maidens" themselves that Lord Falmouth will not allow the field in which they stand to be ploughed, and all antiquarians certainly owe him a debt of gratitude for this and other proofs of his interest in antiquities. Mr. Bolitho carefully marked the site thus indicated on a copy of the 25-inch map. I shall subsequently show that the circle which formerly existed here, like the others named, was located on an important sight-line.

Mr. Horton Bolitho was good enough to make a careful examination of the barrows A and B of Borlase.¹ In A (S. 69° W.) he found a long stone still lying in the barrow, suggesting that the barrow had been built round it, and that the apex of the barrow formed a new alignment. In B there is either another recumbent long stone or the capstone of a dolmen. This suggests work for the local antiquarians.

I should state that there may be some doubt about barrow A, for there are two not far from each other with approximate azimuths S. 69° W. and S. 64° W. The destruction of these and other barrows was probably the accompaniment of the reclamation of waste lands and the consequent interference with antiquities which in Cornwall has mostly taken place since 1800.

But it did not begin then, nor has it been confined to barrows. Dr. Borlase in his parochial memoranda under date September 29, 1752, describes a monolith 20 feet above ground, and planted 4 feet in it, the "Men Peru" (stone of sorrow) in the parish of Constantine. A farmer acknowledged that he had cut it up, and had made twenty gate-posts out of it.

My wife and I visited the Merry Maidens at Easter, 1905, for the purpose of making a reconnaissance. Mr. Horton Bolitho and Mr. Cornish were good enough to accompany us.

On my return to London I began work on the 25-inch Ordnance map, and subsequently Colonel R. C. Hellard, R.E., director of the Ordnance Survey, was kind enough to send me the true azimuths of the Pipers. In October, 1905, Mr. Horton Bolitho and Captain Henderson, whose help at the Hurlers I have already had an opportunity of acknowledging, made a much more complete survey of the adjacent standing stones and barrows.

In this survey they not only made use of the 25-inch map, but of the old plan given by W. C. Borlase dating from about 1870. Although the outstanding stones shown by Borlase remain, some of the barrows indicated by him have disappeared.

In January, 1906, my wife and I paid other visits to the monuments, and Mr. Horton Bolitho was again good enough to accompany us. Thanks to him permission had been obtained to break an opening in the high wall-boundary which prevented any view along the "Pipers" sight-line. I may here add that unfortunately in Cornwall the field boundaries often consist of high stone walls topped by furze, so that the outstanding stones once visible from the circles can now no longer be seen from them; another trouble

is that from this cause the angular height of the sky-line along the alignment cannot be measured in many cases.

I will now proceed to refer to the chief sight-lines seriatim. The first is that connecting the circle which still exists with the site of the ancient one. On this line exactly I found four points, a barrow (L) which Borlase had missed (further from the circle than his barrow A), the site, the present circle, and the fougou; azimuth from centre of circle N. 64° E. and S. 64° W. This is the May year line found at Stonehenge, Stenness, the Hurlers and Stanton Drew.

In connection with this there is another sight-line which must not be passed over; from the circle the bearing of the church of St. Burian is about N. 64° W.; like the fougou it is situated on a hill, and near it are ancient crosses which I suspect were menhirs first and crosses afterwards.¹ However this may be, we see in this azimuth of 64° three times repeated that the May and August sunrises and sunsets and the February and November sunsets were provided for.

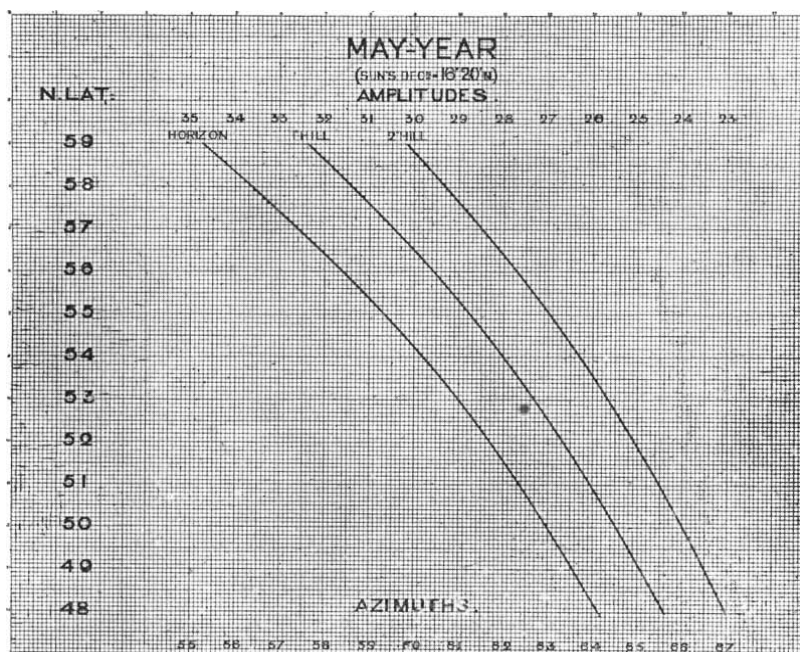


FIG. 2.—The place of the May sunrise in British latitudes.

With regard to the other sight-lines I will begin with that of the Pipers as it is quite obviously connected with the eastern circle only; the stones could not have been seen from the other on account of rising ground. The barrow shown in this direction by Borlase has now entirely disappeared, and the earth has evidently been spread over the surrounding field; its surface is therefore higher than formerly, so that when the opening was made in the wall the top of the nearest piper could not be seen from the centre of the circle; an elevation of about 2 feet from the

¹ In A.D. 658 a council assembled at Nantes decreed:—"As in remote places and in woodlands there stand certain stones which the people often worship, and at which vows are made, and to which oblations are presented—we decree that they be all cast down and concealed in such a place that their worshippers may not be able to find them."

"Now the carrying out of their order was left to the country parsons, and partly because they had themselves been brought up to respect these stones, and partly because the execution of the decree would have brought down a storm upon their heads, they contented themselves with putting a cross on top of the stones."—"Book of Brittany," by Baring-Gould, p. 20.

¹ "Nænia," p. 214.

ground level was necessary. Walking straight from the circle to the first piper, the second piper was exactly in a line, though at a much lower level. This showed that the ordnance values were not quite accurate, which was not to be wondered at as no direct observation had been possible. I therefore adopted the mean of the ordnance values as the true azimuth:—

Piper 1.—N. $37^{\circ} 58' 36''$ E.
Piper 2.— $38^{\circ} 52' 36''$

Mean ... $38^{\circ} 25' 36''$

The sky-line from the centre of the circle was defined by the site of the vanished barrow, angular elevation $20'$, and it is highly probable that the func-

old one, but if we suppose it to have been used like the Barnstone at Stenness for observations over the circle its use at once becomes obvious.

From the azimuth given, the declination of the star was $5^{\circ} 24'$ N. Now this was the position of the Pleiades B.C. 1960, when they would have warned the rising of the May sun.

So that it is possible that the erection of the Pipers and of Goon-Rith took place at about the same time, and represent the first operations.

The next alignment has an azimuth of $S. 69^{\circ} W.$; from the circle, it would be the same within a degree from the site of the one which has disappeared, altitude of sky-line $18'$; this line is to a stone cross on rising ground, doubtless a re-dressing of an old menhir, and on the line nearer the circle are the remains of a barrow.

With these data the star in question was Antares, dec. $S. 13^{\circ} 18'$, heralding the May sunrise 1310 B.C.

There is another stone cross defining a line az. $N. 11^{\circ} 45'$ E. from the circle, altitude of sky-line about the same as along the piper azimuth; an intervening house prevents measurement. These values give us N. dec. $38^{\circ} 46'$, referring to Arcturus warning the August sunrise in 1640 B.C.

The three alignments already referred to, then, give us the warning stars for three out of the four quarter days of the May year, the astronomical conditions of which in Cornwall are shown in the accompanying diagrams.

NORMAN LOCKYER.

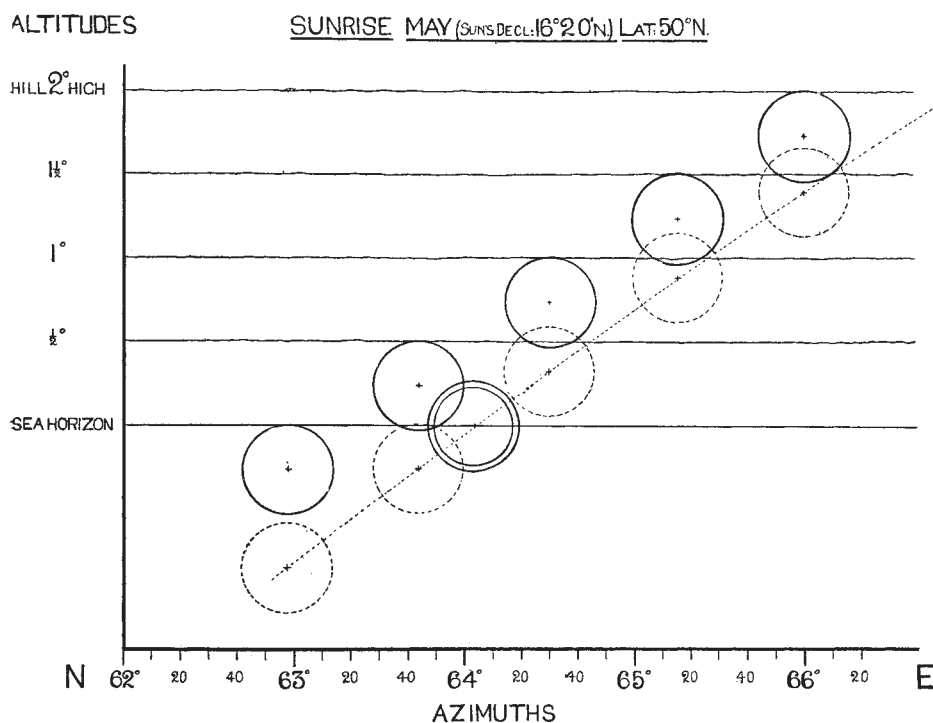


FIG. 3.—Showing the influence of the height of the sky-line on the apparent place of sunrise. The double circle shows the tabular place of sun's centre.

tion of the barrow when built was to provide a new sight-line when the star-rise place was no longer exactly pointed out by the piper line.

With these data the star in question was Capella, dec. $29^{\circ} 58'$ N., heralding the February sunrise, 2160 B.C.

I next come to the famous menhir Goon-Rith. The conditions are as follows:—from the circle Az. $S. 81^{\circ} 35'$ W. Altitude of sky-line $34'$.

Concerning this alignment from the circle, it may be stated that it cuts across many ancient stones, including one resembling a rock basin or laver, and another either a holed stone or the socket of a stone cross. I suspect also the presence in old days of a holy well attached to the circle, for there is a pool of water in a depression which is shown in the 25-inch map.

I regard it as quite possible that we are here in presence of the remains of a cursus, an old *via sacra*, for processions between the circle and the monolith.

I have not been able to find any astronomical use for this stone from the circle or from the site of the

THE SERUM THERAPY OF PLAGUE.

THE discovery of diphtheria antitoxin and the excellent results obtained with it in practice, which in the Metropolitan Asylums Board hospitals has resulted in a reduction in the case-mortality from about 29 to 11 per cent., raised hopes that a panacea had at last been found for all microbic diseases. But it must be confessed that expectations have not been realised, and as regards other therapeutic sera none has proved nearly so efficacious as the diphtheria serum.

Several reasons may be given for this. The anti-toxic sera, *i.e.* therapeutic sera prepared by the injection of bacterial toxins, are much more potent than anti-microbic sera, and possess antidotal properties proportional to their strength. But unfortunately most micro-organisms do not produce an extra-cellular toxin, like the diphtheria bacillus does; the toxic substances are more or less intimately associated with the bacterial cells, as in staphylococcal and streptococcal (septic) infections, typhoid, plague, &c. Now